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ABSTRACT

In 1969, Arthur Jensen published his controversial article concluding that blacks are less intelligent than whites and that genetic factors explain more of the variance between the two groups than environmental differences. This paper criticizes Jensen's work and discusses its negative implications. Interpretive and methodological weaknesses in Jensen's research are described, including erroneous assumptions regarding environmental effects and gaps and incomplete analysis of variance in Jensen's data. The validity of IQ scores is then examined. It is held that IQ is a culturally biased measurement, subject to environmental influences, and that, furthermore, Jensen's interpretation of IQ scores is different for blacks and disadvantaged children than for whites. Next, political and social misuses of the Jensen hypothesis are discussed. Principal effects of Jensen's work are said to be enhancement of feelings of racial superiority among whites, reinforcement of the myth of individual responsibility for social mobility, the evolution of the "culture of poverty" thesis, and support for the status quo in the American educational system. Finally, Jensen's work is said to exemplify how a scholar's values, as well as his own background, may lead him to be less objective than he thinks, especially in regard to subjects dealing with race, heredity, and environment. (Author/GC)

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THE JENSEN HYPOTHESIS:

Social Science Research or

Social Science Racism

by

Frank L. Morris

Massachusetts Institute of Technology

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Social Science Research or Social Science Racism

Frank L. Morris

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Stoneham, Mass.,
January, 1971

to

Mary, Frank and Scott

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INTRODUCTION

> Lurking behind concepts of justice, equality, fair treatment and good arbitration are the basic and deep assumptions concerning symmetry. Justice carries her scales. Political slogans and legal maxims call for equality along with liberty--equal treatment under law and equal access to opportunity regardless of race, color or creed. Under certain forms of government it is held to be self evident that all men are created equal. At the core of many of the fundamental problems encountered in human affairs is an implicit assumption of symmetry.[1]

With the publishing of his article, "How Much Can We Boost IQ and Scholastic Achievement,"[2] Arthur Jensen touched off an issue which had been dormant in the academic community for about 25 years. He revived the nature-nurture controversy by questioning the assumption of congruent symmetries between populations; specifically whites and blacks in the United States for a phenotype such as intelligence.[3] The proof of the noncongruent symmetry was the fact that blacks in the United States score almost one standard deviation below whites in IQ tests. Jensen cites a number of studies which show that the closer the kinship relation, the higher the IQ correlation. Jensen uses a statistical analysis of variance model to conclude that the heritability of the phenotype intelligence is approximately .80. From this he concludes that genetic factors explain more of the variation in black-white IQ scores than environmental differences. Although this was the central issue in his presentation, many other issues were brought into the controversy. These issues include the nature of environmental differences between whites and blacks in the United States, whether these differences can be adequately measured or controlled at present; whether compensatory education has been adequately tested; whether current IQ tests can fairly or

[1] Martin Shubik, Game Theory and Related Approaches to Social Behavior, (Wiley: New York, 1964), p. 51.
[2] Arthur R. Jensen, "How Much Can We Boost IQ and Scholastic Achievement?" Harvard Educational Review, XXXIX, no. 1, Winter, 1969, Reprinted in Harvard Educational Review Reprint Series no. 2, Environment, Heredity, and Intelligence (1969), pp. 1-123.
[3] Ibid.

equally measure the "intelligence" of children of different races, creeds, and socio-economic status (SES) levels; whether Jensen should be held responsible for any political and social policies or political and social misinterpretations of his work; whether Jensen himself has certain intellectual blind spots or biases as a result of growing up in a particular socio-economic milieu, and finally how certain must a social scientist be of his data on controversial racial subjects before publishing them? I must raise some of these questions in order to evaluate Jensen's basic premise and I will discuss others because of their importance for social science research.

Keep in mind that a phenotype is defined as the observable or measurable traits or characteristics in an individual. In contrast, a genotype refers to the genetic endowment that an individual receives at birth.

There are basic policy ramifications of Jensen's study that threaten to make worse the already difficult conditions of black people living in the United States. This threat is not posed because Jensen stressed the high probability of a genetic explanation for differences in "intelligence" no matter how it is defined. Rather the threat comes from the likely public policy conclusions that could emerge from his faulty analysis.

What Jensen did was to hold a culturally biased narrow spectrum of mental capacity as a norm for interpolating a negative difference in black and white mental ability. In order to do this he had to make either naive or vicious comparisons of black-white environmental comparability and many assumptions and inferences beyond the scope of his data.

The Jensen study is another example of a social scientist who uses the unquestioned norm of IQ scores to make black-white comparisons (with the blacks always looking worse of course).

> Social Science research with Negro groups has been postulated on an idealized norm of "American behavior" against which all behavior is measured. This norm is defined operationally in the way white-middle class America is supposed to behave. The normative view, however, wrongly equates equality with sameness. The application of this misinterpreted egalitarian principle to social science data has often left the investigator with the unwelcome

> task of describing Negro behavior not as it is, but rather as it deviates from the normative system defined by the white middle class.[4]

By not questioning the norm, the assumption is that there is something wrong with the black children rather than with the norm. Jensen is clearly racist when he uses this IQ data as the basis for suggesting that the high birth rate of the black poor and the low birth rate of the black middle class has made blacks more likely to have genetically determined constraints on the ability to learn.[5]

The policy conclusions of the Jensen article serve certain interests. This hypothesis reinforces those who would not attempt to equalize educational opportunity either by having black and white children attend the same schools or by spending more on black schools. The basic premise is because of genetic differences, it is impossible for black children to adequately learn what white children learn best (conceptual learning) and therefore, black children should only be taught in their strength (rote or associative learning). This is the justification of an educational caste system.

Black people have particularly resented the article because we know that invidious differences have been used to justify, legitimatize, or rationalize mistreatment, enslavery, discrimination or genocide.

Because of the importance of the subject, I will first discuss the evidence and evaluate Jensen's basic contentions. Next will be a discussion of the question of IQ tests and what they measure and what they do not measure. Then, I will turn to the political and educational effects of the Jensen article. Following this, I will turn to the question of Jensen and racism. I will conclude with some thoughts on social science research on race relations.

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[4] Stephen S. and Joan C. Baratz, "Early Childhood Intervention: The Social Science Base of Institutional Racism," Harvard Educational Review, Vol. XL, no. 1, (Feb., 1970), p. 31.

[5] See Jensen, pp. 91-95.

THE JENSEN POSITION[6]

To understand the Jensen position we must first begin as he does with his definition of intelligence. Since this concept is so crucial to his model, I will deal with it in a separate section later in the paper. Jensen does however boil down his definition of intelligence to the psychological test-measured capacity for abstract reasoning and problem solving or basically Spearman's common factor "general intelligence: or simply 'g'."[7] Also crucial to the analysis is the contention that this factor can be adequately measured at present.[8]

After it is understood what he means by intelligence, the basic Jensen arguments can be summarized as follows:

1. Compensatory education for disadvantaged children has failed because it did not permanently increase their IQ scores over a long period of time.
2. Children with low IQ's tend to be genetically as well as environmentally handicapped, so that efforts to raise their IQs by improving the school environment are consequently misguided.
3. Genes play a major role not just in IQ differences among individuals from the same ethnic or socio-economic group, but also in IQ differences between such groups.
4. Low IQ children can be taught more effectively if less emphasis is placed upon the manipulations of abstractions and more emphasis placed upon rote learning.[9]

Most of his article and the resulting controversy deal with points two and three above. It is upon these two controversial arguments that most of this section will focus.

It is important to specify the degree and magnitude that a phenotype such as intelligence is more greatly

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[6] This section basically spells out the Jensen position. If the reader is already familiar with Jensen's basic contentions, then he can procede directly to the next section.

[7] Ibid., p. 19; see also pp. 5-28.

[8] Ibid., p. 5.

[9] See Christopher Jencks, "What Color is IQ?," New Republic, CLXI, no. 3, March, 1970, p. 5.

affected by genetics or by environment. It is also important to remember that heredity and environment are not mutually exclusive either/or propositions. Every character of an organism is the result of a unique interaction between the inherited genetic information and the sequence of environments through which the organism has passed during its development.

> For some traits the variations in the environment have little effect, so that once the genotype is known, the eventual form of the organism is pretty well specified. For other traits, specification of the genetic makeup may be a very poor predictor of the eventual phenotype because the smallest environmental effects may affect that trait greatly. But for all traits there is a many-many relationship between gene and character and between environment and character. Only by a specification of both the genotype and the environmental sequence can the character be predicted. Nevertheless, traits do vary in the degree of their genetic determination and its degree can be expressed, among other ways, by their heritabilities.[10]

To determine the likely (but still approximate) heritability of a trait Jensen relies upon an analysis of variance model that has been widely used in genetics and psychology. Before discussing the heredity variance equation, let's briefly discuss total variance among genotypes in a population. Jensen notes that the variance is an index of the total amount of variation among scores. Since variance represents variation on an equal interval scale, the total variance of a distribution of scores can be partitioned into a number of components, each one due to some factor which contributes a certain specifiable proportion of the variance, and all these variance components add up to the total variance.[11]

Jensen's variance equation is as follows:[12]

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[10]Richard C. Lewontin, "Race and Intelligence," Science and Public Affairs (Bulletin of the Atomic Scientists), XXVI, no. 3, March, 1970, p. 5.

[11]Jensen, p. 29.

[12]Jensen, p. 34.

$$Vp = \underbrace{\frac{(Vg + Vam) + Vd + Vi}{Vh}}_{\text{HEREDITY}} + \underbrace{\frac{Ve + 2CovHe + Vl}{VE}}_{\text{ENVIRONMENT}} + \underbrace{\frac{Ve}{}}_{\text{ERROR}}$$

Vp = phenotypic variance in the population
Vg = genetic or additive variance
Vam = variance due to associative mating
Vd = dominance deviation variance
Vi = epistatis (interaction among genes at two or more loci)
VE = environmental variance
CovHe = covariance of heridity and environment
Vl = true statistical interaction of genetic and environmental factors
Ve = error of measurement (unreliability)

The hereditability of a trait is developed from the above variance model. Specifically, the heritability of a measure is defined as the ratio of the variance due to the differences between the genotypes to the total variance in the population. This relationship is shown in the equation below:

$$H = \frac{(Vg + Vam) + Vd + Vi}{Vp - Ve} \quad [13]$$

The importance of Jensen's equations is that they permit an estimate of what proportion of the population variation in the characteristic is attributable to genotypic variation (which is H the heritability) and what proportion is attributable to non-generic or environmental variation in the population (which is H-1). For metric characteristics like height and intelligence, H can have values between 0 and 1.[14] Put more specifically, if H = 1 then all variation in the population resulted from differences between genotypes and therefore none of the variation around the mean could be contributed to environmental causes. Likewise, a H = 0 means that all individuals are equal in their genes and all variation in the population resulted from environmental differences in the development of the different individuals. The way Jensen (and others) estimated the heritability of a trait was to measure individuals of

[13] Ibid., p. 42.
[14] Ibid.

known degrees of relationship with each other and to compare the observed correlation in the trait between relatives with the theoretical correlations estimated from genetic theory.[15]

By examining almost all studies in the literature Jensen concludes that the amount of population variance that could be attributed to H is approximately .80. The closer the H coefficient is to 1, the more likely Jensen is correct.

> We see that the correlation between identical or monozygotic (MZ) twins reared apart is .75. Since MZ twins develop from a single fertilized ovum and thus have the same genes, any difference between the twins must be due to non genetic factors. And if they are reared apart in uncorrelated environments, the difference between a perfect correlation and (1.00) and the obtained correlation (.75) gives an estimate of the proportion of the variance in IQs attributable to environmental differences: 1.00 - .75 = .25. Thus 75 per cent of the variance can be attributed to genetic variability (this is the heritability) and 25 per cent due to environmental variation. Now let us go to the other extreme and look at unrelated children reared together. They have no genetic inheritance in common, but they are reared in a common environment. Therefore the correlation between such children will reflect the environment. This correlation is .24. Thus, the proportion in IQ variance due to environment is .24; and the remainder .76 is due to heredity. There is quite good agreement between the two estimates of heritability.[16]

After presenting a case for as high an estimate of H as possible, Jensen then moves to explain major problems with environmental hypotheses, which he feels greatly overemphasize the effect of E (environment).

It is crucial to Jensen's theory to explain the instances of sizable increases in children's IQs that have been brought about by changed environmental conditions. He handles this through the concept of environmental threshold.

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[15] For a good discussion of this see Lewontin, p. 6.
[16] Jensen, p. 50.

> While there are reports of groups of children going from below average up to average IQs as a result of environmental enrichment, I have found no report of a group of children given permanently superior IQs by means of environmental manipulations. In brief, it is doubtful that psychologists have found consistent evidence for any social environmental influences short of extreme environmental isolation which have a marked systematic affect upon intelligence. This suggests that the influence of environment on intellectual development is not a linear function. Below a certain threshold of environmental adequacy, deprivation can have a markedly depressing effect upon intelligence. But above this threshold, environmental variations cause relatively small differences in intelligence. The fact that the vast majority of populations sampled in studies of the heritability of intelligence are above this threshold level of environmental adequacy accounts for the high values of the heritability estimates and the relatively small proportion of IQ variance attributable to environmental influences.[17]

Jensen acknowledges that a whole series of undesirable reproductive conditions such as low birth weight, prematurity, prolonged labor, toxemia, and many other deficiencies have a higher incidence among low socio-economic groups and "they probably account for some proportion of the group differences in IQ and scholastic performance.[18] Jensen concludes (after noting a study of eight point gains in IQs to offspring of New York City low SES mothers who were given vitamins during pregnancy) that it is not certain how much the disadvantageous reproductive factors are responsible for the IQ differences between social classes.[19]

The heart of Jensen's attack on environmental explanations for black-white IQ differences rest on the following points. First Jensen used a study by Heber to show that for the two highest socio-economic status (SES) categories, the number of black children with IQs below

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17 Ibid., p. 60.
18 Ibid., p. 70.
19 Ibid., pp. 70 & 74.

75 was thirteen and a half times as great as the number of white children in the same categories.[20] Second, in a study by Shuey, which summarized literature up until 1965, upper status black children average 2.6 IQ points below the low status whites.[21] Third, Duncan's work has shown a much greater regression to the mean (from parents to their children) for high status occupations in the case for blacks than in the case of whites.[22] Finally, using Coleman Report data, Jensen notes that on every environmental index American Indians rank lower than American Negroes; yet the American Indians average about one-half a standard deviation higher than the Negroes.[23] Jensen concludes from this fact that a genetic explanation is to be preferred over an environmental factor for the following reasons:

> None of these findings is at all surprising from the standpoint of a genetic hypothesis of which an intrinsic feature is Galton's law of filial regression. While the data are not necessarily inconsistent with a possible environmental interpretation, they do seem more puzzling in terms of strictly environmental causation. Such explanations seem contemperately strained.[24]

The information presented so far supports Jensen's major contentions. If the phenotype intelligence is more greatly influenced by genetic factors rather than by environmental ones as is evidenced by the high H score in the variance equation, then any compensatory educational techniques that attempted to attack genetic weaknesses or differences by manipulating the environment are either doomed to failure or are excessively inefficient. Also, the data above show that the black-white and the black-Indian IQ differentials cannot be explained by deprived environments or the lack of a higher socio-economic status.

After making the above arguments, Jensen reviews much of the literature that evaluates compensatory education programs and concludes that the benefits in terms of IQ gains are small.[25]

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[20] Ibid., p. 83.
[21] Ibid., p. 84.
[22] Ibid.
[23] Ibid., p. 85.
[24] Ibid., p. 84.
[25] Ibid., p. 108.

Jensen concludes with the results of some of his own research which show that lower class children of both races perform as well as middle class children in exercises stressing rote memorization which Jensen calls associative learning or level one. It is in level two learning--the cognitive or conceptual learning and problem solving that the IQ differentials show up.

The above evidence led Jensen to the following conclusion which sparked the controversy:

> There is an increasing awareness among students of the psychology of the disadvantaged that the discrepancy in their average performance cannot be completely or directly attributed to discrimination or to equalities in education. It seems not unreasonable, in view of the fact that intelligence variation has a large genetic component, to hypothesize that genetic factors may play a large part in this picture. But such an hypothesis is anathema to many social scientists. The idea that the lower average intelligence and the lower scholastic performance of Negroes could involve, not only environmental but also genetic factors has been strongly denounced. But it has been neither contradicted nor discredited by the evidence . . . The preponderance of evidence is, in my opinion, less consistent with a strictly environmental hypothesis than with a genetic hypothesis, which, of course does not exclude the invluence of environment or its interaction with genetic factors.[26]

Jensen leaves himself plenty of escape hatches with the above statement. Nevertheless, I agree with Lewontin that when this statement is translated into English it reads . . . "It is pretty clear though not absolutely proved that most of the difference in IQ between whites and blacks is genetical."[27]

That is the basic Jensen study. I have tried to present the case in adequate detail because my own values and biases are in the opposite direction. We now turn to the major criticisms of this basic case.

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[26] Ibid., p. 82.
[27] Lewontin, p. 7.

CRITICISMS OF THE JENSEN POSITION

A fundamental and crucial inference in the Jensen study is the contention that if the phenotype intelligence is influenced more by genetics than environment (as evidenced by a much higher H score than E score in the equations mentioned in section one), then there is a much higher probability that IQ measured differences between two populations in that trait must be due to genetic factors. This line of reasoning is especially persuasive to those of us who are not trained in genetics. That this line of reasoning is in error is evident by the following statement:

> It is clear, I think, that a high heritability of intelligence in the white population would not, even if there were similar evidence in the black population, tell us that the differences between the groups are genetic. No matter how high the heritability (unless it is 1), there is no assurance that a sufficiently great environmental difference does not account for the difference in the two means, especially when one considers that the environmental factors may differ qualitatively in the two groups. So I think the evidence regarding the importance of heredity in determining group mean differences must come from other kinds of studies.[28]

Biologists and plant physiologists can build an even stronger case against the genetic control assumption. Lewontin notes that it is possible in plant experimentation to have the variation attributed to heritability to be one, and thus a case in which heritability within populations is complete, yet a significant difference between populations can be entirely environmental.[29] Something along the same lines has been said by Dr. Kurt Hirschorn, President of the American Society of Human Genetics:

> Even if you accept the conclusion that genetics is the sole determinant of intelligence, you have to remember that environment often determines how genes are expressed. For example, if we did not

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[28]James F. Crow, "Genetic Theories and Inferences: Comments on the Value of Diversity," Harvard Educational Review, XXXIX, no. 2. Spring, 1969, reprinted in Harvard Education Review Reprint series no. 2, Environment, Heredity and Intelligence, 1969, p. 160.

[29]Lewontin, p. 8.

live in a society that consumes dairy products we would not know that a gene for galactosemia even exists.[30]

Jensen recognizes that the high heritability of a trait within a population does not prove that genetic factors are involved in the mean differences between two populations.[31] He nevertheless thinks that there is a high probability that genetic differences do explain the IQ test differences between black and white children in the United States.[32] The bulk of his evidence rests on the relatively high heritability coefficients (.76) admittedly chosen within a population group with a relatively homogeneous (compared to blacks) environment and evidence that blacks from a high SES have slightly lower IQ scores than lower SES whites or Indians in the Coleman sample.

In following his line of reasoning Jensen must also assume that environmental differences between races are comparable to the environmental variation within them. However, if this assumption is incorrect, then there is no logical connection between heritabilities determined within either race and the genetic difference between them, because if the environment of the black race comprises more difficult barriers to overcome (on the average) than that of the white race, then the black IQ phenotype scores would be likely to be lower than the white IQ test scores, even if heredity was the dominant factor in IQ for both races.

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[30] New York Times, May 2, 1969, p. 40. Galactosemia is an inborn error of metabolism that renders a person unable to metabolize the milk sugar galactose. Untreated it can bring brain and liver damage and even early death.

[31] On page 65 of his article, Jensen writes: "Since some genetic strains may be more buffered from environmental influences than others, it is not sufficient merely to equate the environments of various subgroups in the population and to infer equal heritability of some characteristic in all of them."

[32] In his original article, Jensen does not write of the stochastic nature of this inference. He does write about it when he answers his critics. See Arthur R. Jensen, "Race and the Genetics of Intelligence: A Reply to Lewontin," Science and Public Affairs, Vol. XXVI, no. 5 (May, 1970), pp. 21-22.

> Whether or not the variation in IQ within either race is entirely genetic or entirely environmental has no bearing on the question of the relative contribution of genetic factors and environmental factors to the differences between the races.[33]

Jensen's whole argument is put into perspective once we realize that Jensen makes two crucial assumptions about the environment. First he minimizes the genotype-environment interaction effects. Second he assumes that the environmental differences between races are comparable to the environmental variation within them and that he is able to hold the environmental factors constant by comparing blacks and whites said to be in the same SES class. Both of these assumptions will be dealt with in this paper. Before discussing these major assumptions, I want to point out some major difficulties of determining heritability coefficient estimates by relying upon twin studies.

Jensen basically relies upon a very limited population and small number of twin studies to extrapolate about the relatively low influence of environments in contrast to genetic influence on IQ for the population as a whole. Many of the critics point out that the twin studies may underemphasize the importance of environment because efforts are made to provide similar environments for identical twins even those that are raised apart.[34]

Jensen himself admits a more serious limitation of the studies of twins. This difficulty is caused by the fact that all heritability samples are based upon white European and North American populations. There have been no studies of black twins.[35] As Arthur Stinchcombe has noted, what is really needed to apply such kinship research to the problem of racial differences are pairs of identical twins, one of which is a Negro, and pairs of fraternal twins, one of whom is a Negro.[36] Martin Deutsch makes the point most clearly when discussing the twin studies:

[33]Walter F. Bodmer and Luigi Luca Cavalli-Sforza, "Intelligence and Race," Scientific American, Vol. 223, no. 4 (October, 1970), p. 27.

[34]Jencks, p. 27.

[35]Jensen, p. 65.

[36]Arthur L. Stinchcombe, "Environment: The Cumulation of Effects is Yet to be Understood," Harvard Educational Review, XXXIX (Summer, 1969), pp. 511-522, reprinted in Harvard Educational Review Reprint series no. 4, Science, Heritability and IQ, 1969, p. 77.

> They are all studies of Caucasian children, especially separated twins or siblings, whose environmental variation is not thought by scholars to be representative of the general population. To say it bluntly, Jensen (and the rest of us) have no idea what the proper estimates of Vh and Ve and so forth are for black people, and we have only very tentative guesses for what they are for Londoners and northern mid-west Americans. The estimates of heritability upon which Jensen's entire argument depends, are only accurate if each possible genotypic child is placed randomly in each conceivable environment. To approximate such a study, researchers must at least include black children and a representative range of environments.[37]

Jensen's extrapolations from twin study data raise major questions about the external validity of his findings. External validity refers to the generalizability of the results of an experiment and its effects to other populations, settings, and treatment and measurement variables. Generalization always turns out to involve extrapolation into a realm not represented in one's sample. In using the numerous twin study data, Jensen demonstrated the relative effects of heredity and environment only for the specific conditions in which the twin studies have in common with other studies; specifically other studies involving twins or children of comparable age, intelligence, socioeconomic status, language, geographic region, historical moment and race. "The sources of external invalidity are thus guesses as to . . . what factors fully interact with our tre tment variables, and by implication, guesses as to what can be disregarded."[38] Jensen simply guesses that the same environmental barriers that effect black children effected the white children in the twin studies in the same way and to the same degree. Nobody can make very good

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[37] Martin Deutsch, "Happenings on the Way Back to the Forum: Social Science, IQ, and Race Differences Revisited," Harvard Educational Review, XXXIX, no. 3 (Summer, 1969) pp. 523-557, reprinted in Science, Heritability and IQ, 1969, p. 77.

[38] Donald T. Campbell & Julian C. Stanley, Experimental and Quasi-Experimental Designs for Research, Rand McNally: Chicago, 1966, p. 17.

cross race comparisons of heredity, environment or the heredity environment interaction effects or variance from data on total population effects or variances or, in Jensen's case, from only data on white race effects or variances.

Richard Light and Paul Smith have pointed out that Jensen should have used the technique of a Fisher's Z transformation for pooling intraclass correlations in the twins studies rather than taking the medians.[39] This is especially the case in situations like this where a few per cent of variance can be responsible for large differences between group means.

Another fundamental methodological weakness of the Jensen case was the instability of inference drawn from a correlation analysis of so few twin studies.

> Thus the estimates of the model parameters which Jensen uses as the underpinning of his entire analysis have approximately the same reliability as if he had selected one sample of 100 twins. That Professor Jensen would draw such far reaching implications from a sample of this size, and in the complete absence of any black twin studies data at all is remarkable.[40]

Another major Jensen blunder was to assume that environmental differences between races are comparable to environmental variation within them. Jensen did this by comparing whites and blacks across socio-economic categories with the assumption that SES standards are comparable.[41] This ignores the fact that the mean class position for blacks is very much lower than the mean class positions for whites. The very rich are more underrepresented for blacks and so on down the income scale. Many of the blacks that Jensen calls middle class are probably working class and so on down the line.[42] Thus Jensen is incorrect in assuming that the actual environments are equal.

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[39]Richard J. Light and Paul V. Smith, "Social Allocation Models of Intelligence: A Methodological Inquiry," Harvard Educational Review, XXXIX, no. 3 (Summer, 1969), pp. 484-510, reprinted in Science, Heritability and IQ, 1969, p. 20.

[40]Ibid.

[41]Jensen, pp. 74-78, & 83-88.

[42]Stinchcombe, pp. 31-33.

> . . . Jensen seems to accept one or another of the current indexes of socio-economic status as being a comparable measure of the social condition of blacks and whites. Nearly all such indexes are weighting of education (in number of years completed), income, and occupation (on one or another rating of prestige). These are obviously important dimensions in the social life of our nation and the two races differ considerably in their placement on these three dimensions. But the crucial point is that our SES measures do not work identically for both races. Black and white families with the same incomes do not have the same economic options open to them . . . Further, equal number of years of education do not imply equal education; nor do they imply equal access fo further benefits, such as jobs and income levels . . . Other racially related inequities such as promotion possibilities, nepotistic privileges, community prestige are all lost within our conventional indexes. Equal standings on our measures of social status do not imply equal statuses--at least not for men of different races.
>
> We thus cannot draw conclusions from differences in IQ among blacks and whites "of equal SES" simply because equal SES scores still imply more restricted life chances for blacks.[43]

As if the foregoing were not bad enough, Jensen makes other questionable assumptions about the environment. Jensen seems to imply and assume that current environments and what we know about them, provide an adequate index of the ability of enriched environments to raise or not raise IQ. Jensen's rather fixed conceptions about the importance of environment may have led him to underestimate the cumulative effects of long-term environmental differences.

> Because Jensen thinks of environment in spurts rather than in hours per day, he is surprised when an equalizing spurt does not equalize IQ. He translates this into an argument that the spurt that created the genetic difference is more important. Suppose we have a difference in environment which gives one group a rate of improvement in cognitive

[43]Smith and Light, pp. 4 & 5.

> skills or five per cent a year while the other group advances at three per cent per year. The ration of advance would be 1.05/1.03, or about 1.02 per year. If the two groups start equal, the more advantaged group will be about two per cent ahead after a year. If this environmental difference is maintained for, say, the first 20 years of life, the cumulative effect is about $(1.02)^{20}$, or about 1.5. The effect of a given year's enriched environment, which equalizes the increase for one year, is about a fifth of the disadvantage at five years of age. But it is about one-twenty-fifth of the disadvantage at twenty years of age.[44]

Consistent with his assumption that environmental differences between races are comparable to environmental variation within races, Jensen procedes to compare blacks and American Indians using the Coleman Report data.[45] This comparison was crucial for Jensen because the Indians are an ethnic group that supposedly suffer greater environmental deprivation than blacks but yet outperformed blacks on IQ tests. However, the Coleman Report suffered from a number of methodological difficulties such as a heavy reliance upon mail questionnaires with a subsequent return rate of less than fifty per cent in many categories; the lack of cooperation by big school systems, failures to match black-white sample by curriculums, the fact that in some cases the data were gathered by untrained interviewers who were supposed to ask many probing questions but did not; and finally, the fact that the report relied for their data on environmental variables upon those teachers and administrators in the school systems who had a basic interest in the results.[46] One black educator noted that the

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[44]Stinchcombe, p. 35.

[45]James S. Coleman, et. al., Equality of Educational Opportunity (Washington: U.S. Government Printing Office, 1966.)

[46]For greater detail about methodological weaknesses of the Coleman Report see, Robert C. Nichols, "Schools and the Disadvantaged," Science, CLIV (December 9, 1966), pp. 1312-4; Henry S. Dyer, "School Factors and Equal Educational Opportunity," Harvard Educational Review, XXXVIII, no 1 (Winter, 1968); Alan B. Wilson, "Social Class and Equal Educational Opportunity," Harvard Educational Review, XXXVIII, no. 1 (Winter, 1968); Samuel S. Bowles, "Towards Equality of Educational Opportunity?," Harvard Educational Review, XXXVIII, no. 1 (Winter, 1968).

black parents in Eutaw, Alabama must have thought the Coleman research team was smoking pot when they read the conclusions of the report based upon the administrator's reports that the black and white facilities were in fact separate but equal.[47]

The use of Coleman Report data for black-Indian environmental comparisons can be further discredited when we realize that (according to the report) American Indians typically go to schools where whites are in the majority. This clearly is not the case for schools attended by the majority of black children. The actual differences between whites and Indians may be greater because the report sample probably did not adequately represent the 70-80 per cent of American Indians who live on reservations. As geneticists have noted, "The differences between Indians and blacks or whites are clearly no easier to assess than those between blacks and whites."[48]

I do not want to leave the impression that the major problems I have with Jensen's black-Indian environmental comparison concerns the methodological inadequacies of the Coleman Report. I have a greater problem with two other environmental-educational assumptions. The first of these is the assumption that the Coleman Report measured socio-economic status variables as the most important variables affecting the IQ test performances. I feel, as do others, that to make inferences about black-Indian genetic differences from the Coleman selected items (even assuming they were reported accurately) is unwarranted.[49]

The other Jensen assumption, especially when comparing blacks and American Indians, is that all environmental disadvantage is essentially the same and there is no difference in the quality of the disadvantage, the only question is the quantity. Such an assumption simply ignores the problem of measuring the salient or operative variables within any disadvantageous situation and relating them to criterion measures.[50] The lack of evidence for any genetic-environmental conclusions from the black-Indian SES-IQ comparison is clear to most if not all geneticists.

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47 William F. Brazziel, "A Letter from the South," Harvard Educational Review, XXXIX, no. 2 (Spring, 1969), p. 204.

48 Bodmer & Cavalli-Sforza, p. 28.

49 See Jencks for example, p. 29.

50 Deutsch, p. 76.

> The failure, thus far, to find identifiable variables that, when matched will equalize the IQ scores does not prove that the main difference is hereditary. It can be argued that being white or black in our society changes more aspects of the environment so importantly as to account for the difference. For example, the argument that American Indians score higher than Negroes in IQ tests--despite being lower on the socio-economic scales--can and will be dismissed on the same grounds: some environmental variable associated with being black is not included in the environmental rating.[51]

I believe that all of the above arguments are impressive if not decisive against the Jensen case. However, I feel the more definitive case against him rests upon the technical arguments against the Jensen case have not received any of the attention of Jensen and his proponents nor have they received the publicity that the original Jensen contentions received. One of the reasons of this benign neglect may be that the non academic media may not understand how flimsy Jensen's position is methodologically, but some of us who are black feel there may be other reasons for the relative lack of attention to the points below.

One of the key flaws already mentioned above, is Jensen's interpolation from an analysis of variance model based upon two measurements. The fundamental Jensen error is to confuse heritability of a character within a population with the heritability of the difference between two populations. Between two the concept of heritability of difference is meaningless. This is because variance based upon two measures has only one degree of freedom and thus cannot be partitioned into genetic and environmental components.[52]

The most persuasive methodological case against Jensen is the Smith and Light analysis. They used Jensen's estimates of the proportion of IQ variance attributable to hereditary versus environmental factors. Using those proportions (75 - 25) and without counting an interaction affect, they demonstrated that more than one-half of the fifteen point difference in mean IQ scores between the races could be explained by a more precise breakdown of the environmental SES variables using actual United States data.

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[51] Crow, p. 160.
[52] Lewontin, p. 7.

Second, they showed that using the very conservative Jensen estimate of the interaction between genetic and environmental effects to account for only one per cent of the total IQ variance, a fifteen point difference between means can occur even if the genetic distributions are identical. Third, they used computer simulations which demonstrated the great instability of Jensen's estimation procedures, thus casting real doubt upon the reliability and validity of his parameter estimates. Finally, they demonstrated that with an increased (and in my opinion, the much more probable) heredity-environmental interaction component, mean IQs of whites and blacks could easily differ by more than fifteen points, despite identical genetic distributions in the two races.[53]

The reader will recall that I pointed out earlier how Jensen minimizes the genotype-environment interaction effects. The importance of rather exact estimates of parameters is really crucial in any presentations where we are operating with much less than perfect information on both the genetic and environmental components.

Similar to the way he guessed about black-white environmental comparability in the twin studies, Jensen guessed about the effects of interaction. This greatly limits the external validity of his findings. Modern statistics stress that the interaction between the variables in an experiment is extremely important. If present, it tells us that we cannot study the effect of one variable on the response independent of the other. The failure to detect or predict factor interactions correctly can lead to very erroneous conclusions.[54]

Jensen simply guesses that the portion of the variance explained by the interaction component is .01. He did not estimate the proportion directly from any data; rather he estimated it from a linear combination of environment and genetic effects.[55] The main point to remember is that limitations upon generalizations or the specificity of effects often appear in statistical analysis as significant interactions.[56] These complex and significant interactions are to

53 Smith and Light, pp. 2-25.

54 William Mendenhall, Introduction to Linear Models and the Design and Analysis of Experiments, Wadsworth: California, 1968, p. 91.

55 Smith and Light, p. 18.

56 Campbell & Stanley, p. 29.

be expected the more the experimental situation (the all white twin studies) differs from the setting which one wants to generalize (the way environmental variables effect black IQ scores).

In light of the present major difficulties in determining the magnitude of heredity-environment interaction effects, and the undetermined measurement error in a variance equation which is assumed to apply to blacks, but which is based on only the effects of heredity and environment for some whites, it seems that studies using multiple regression analysis would tell more (especially about the effect of VE) than an analysis of variance approach with the current constraints.

> It is very important to question the exact values of these [Jensen] parameters because in a society which allocates whites and blacks with similar genetic endowments differentially to environments, a small amount of interaction P1, can go a long way toward allocating people with certain genetic endowments to a favorable environment or an unfavorable environment for those particular endowments. If a society chooses to take advantage of the genetic-environment interaction by allocating persons of one race in a positive way, while allocating persons of another race in a negative way, then that society can easily build in differences in measured intelligence where there were none at birth.[57]

We black social scientists are convinced that American society has in fact allocated most whites to positive environments and allocated most blacks to negative environments. When the genetic-environment interaction effects are considered in this context, and when the additive psychological and possibly genetic effects of centuries of deprivation are considered, then Jensen's conscious decision to negate or minimize these very salient factors seems like more than just an oversight.

When one considers the impact of all of Jensen's methodological weaknesses including the inconsistencies of the data in their additive behavior, and especially the absence of any data on black twins, there is no credibility

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[57] Ibid., p. 15.

of even a tentative assertion of genetic differences in intelligence between races.[58]

> Ideally one would like to know the reaction of every genotype in every environment. Given the practically infinite variety of both environments and genotypes, this is clearly impossible. Moreover, in man there is no way of controlling the environment. Even if all environmental influences relevant to behavioral development were known, their statistical control by appropriate measurements and subsequent statistical analysis of the data would still be extremely difficult. It should therefore be emphasized that estimates of heritability depend upon the extent of environmental and genetic variation that prevails in the population examined at the time of analysis, they are not valid for other populations or for the same population at a different time.[59]

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[58] Ibid., p. 25.

[59] Bodmer & Cavalli-Sforza, p. 24.

WHAT DOES THE IQ SCORE REALLY TELL OR NOT TELL?

One of Jensen's abilities is to dismiss questions that may have reflected unfavorably on his argument or which may be difficult to answer, as if they were not relevant to the basic issue. One of these is the question of what intelligence really is.[60] This does not seem to be any more unanswerable than the question of the heredity-environmental impact upon intellectual ability. Alas, more has probably been written with the result of more professional agreement on the former question than on the latter. Other black scholars and I will not permit Jensen to evade the question of what intelligence really is, especially in discussing black-white genetic differences. This question is more important because most of the lay population, who have been very interested in Jensen's findings, use intelligence as if it were a broader measure of mental ability rather in the more narrow sense used by Jensen.

When it comes right down to the nitty gritty, Jensen acknowledges that he defines intelligence as "what intelligence tests measure."[61] Jensen elaborates on this by considering intelligence as the psychological test measured capacity for abstract reasoning and problem-solving, or basically Spearman's "g" factor of "general intelligence."[62] Although Jensen cautions against reifying this "g" concept, he proceeds to do just that throughout the article. Although Jensen notes the white European and North American middle class biases in "intelligence" tests such as the Stanford-Binet[63] and acknowledges that these tests do not approach measuring all of what we consider mental ability, his faith in the instrument is unshaken.

> . . . the particular constellation of abilities we know as "intelligence" and which we can measure by means of intelligence tests, has been singled out from the total galaxy of mental abilities as being especially important in our society mainly because of the nature of our traditional system of formal education and the occupational structure with which it is coordinated. Thus, the predominate importance of intelligence is derived, not from any absolute

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[60] Jensen, p. 6.

[61] Ibid., p. 8.

[62] Ibid., p. 19.

[63] Jensen, pp. 6, 7, 14.

> or God-given desiderata, but from societal demands. But neither does this mean that intelligence exists only "by definition" or is merely an insubstantial figment of psychological theory and test construction. Intelligence fully meets the usual scientific criteria for being regarded as an aspect of the objective reality, just as much as do atoms, genes and electromagnetic fields. Intelligence has indeed been singled out as especially important by the educational and occupational demands prevailing in all industrial societies, but it is nevertheless a biological reality and not just a figment of social convention. Where educators and society are most apt to go wrong is in failing fully to recognize and fully to utilize a broader spectrum of abilities than just that portion which psychologists have technically designated as intelligence.[64]

For Jensen intelligence is synoymous with the narrowly defined unitary concept of intelligence or basically what intelligence tests measure. This concept does not have the recognized "objective reality" that Jensen would have us think. When we define intelligence in these terms we run into the danger that John Stuart Mill warned about when he noted . . . "The tendency has always been strong to believe that whatever receives a name must be an entity of being, having an independent existence of its own. And if no real entity answering to the name could be found, men did not for that reason suppose that none existed, but they imagined that it was something particularly abstruse and mysterious."[65]

Jensen's values of the IQ tests are because of the following:

1. They are reliable measures. The Stanford-Binet test has a reliability of ninety-five per cent with only five per cent margin of error.
2. There is a correlation of approximately .55 between the Stanford-Binet and occupational status and .55 between the Binet and scholastic performance. Thus the test was developed to aid in the process where

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[64] Ibid., pp. 19-20.

[65] John Stuart Mill, cited in J. P. Guilford, The Nature of Human Intelligence, McGraw-Hill: New York, 1967, p. 12.

> the educational system and the society helped select those individuals who have the key mental skills of abstract reasoning ability which Western, industrial society so greatly depends upon.[66]

It is not surprising to me that many American educators and many American educational psychologists such as Jensen have been and continue to be impressed with IQ tests such as the Stanford-Binet and the more sophisticated versions such as the whole series of "aptitude" tests administered annually by the Educational Testing Service out of Princeton. Ostensibly educators who use these tests do so because they are a reliable and efficient way of helping to recognize intellectually talented people. Could it be that the real reason Americans are preoccupied with these tests is because these tests consistently reinforce learning stressed in white middle and upper class homes; the tests make an abstract, complicated and multifactored concept like intelligence (defined as the entire spectrum of mental abilities) be redefined to a narrow range of mental abilities which these tests measure. The tests are an example of the psychological middle class white value reinforcement that preoccupies most of American education.

Thus for Jensen the IQ tests are reliable, operational (defined as capable of accurate measurement) instruments that help Western industrial society adjust to the natural mesh of people with high intelligence (defined as people with high IQ scores) to jobs that require those skills. Jensen does however make one critical distinction. He acknowledges that the IQ tests are greatly culture bound but he stresses that performance[67] on the tests is not environmentally determined. In other words, his argument is that it is probable that people with a certain genetic endowment are able through innate ability to do better on a culture bound test than others with a different genetic endowment.

Throughout his article, although he does not say so directly, Jensen implies that the IQ test is actually measuring capacity, or at least the capacity for abstract reasoning. If this is not a correct inference, then his argument that compensatory education has failed and is doomed to failure in the future is a non sequitur. Jensen also quotes Edward Ziegler of Yale to the effect that extreme environmental enthusiasts have made "capacity" a dirty word.[68]

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[66] Jensen, pp. 7-10, 13-18.
[67] Jensen in Science (May 1970), pp. 21-22.
[68] Ibid., p. 29.

The conception that the IQ tests adequately and cross culturally measure capacity runs against the grain of modern research in psychology.[69] I noted that Jensen could offer no evidence to support this assumption. Cronbach has noted that capacity is a dirty word, incapable of being given meaning and overwhelmingly capable of confusing discussions. It and all words like it refer to nothing but an expectation under present circumstances.[70] Current IQ tests say nothing firm about capacity or about general learning ability or even that they reflect a child's current cognitive still, especially if facilitating stimuli are given.[71]

I find it difficult to understand how Jensen can extrapolate from data based on IQ scores to inferences about intellectual cognitive capacity. This is especially the case after he so clearly spells out the meaning of IQ.[72] He noted that the old definition of the IQ as the ratio of the mental age to chronological age: IQ = (MA/CA) x 100. The mental age was simply defined as the typical or average score obtained on a test by children of a given age, and thus the average child by definition has an IQ of 100. This formula was revised simply because it no longer made sense after sixteen years of age. Modern psychologists no longer attempt to measure mental age, instead they convert raw scores (i.e., the number correctly answered) directly into IQs for each chronological age group. The average IQ at each age is arbitrarily set at one hundred, and the IQ is defined as a normally distributed variable with a mean of one hundred and a standard deviation of fifteen points.[73]

Once a person concedes, as Jensen does, that IQ tests are culture bound, it seems difficult to understand why he does not also see that in fact these tests measure essentially what children have learned, not how well they learn something new. There are a number of difficulties that I have with IQ tests that evidently did not bother Jensen.

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[69] For example, see Martin Deutsch, et. al., The Disadvantaged Child, New York: Basic Books, 1967.

[70] Lee J. Cronbach, "Heredity, Environment, and Educational Policy," Harvard Educational Review, XXXIX, no. 2 (Spring, 1969), reprinted in Environment, Heredity and Intelligence, p. 198.

[71] Deutsch, p. 82.

[72] Jensen, p. 20.

[73] Ibid.

First is the fact that in most cultures, IQ tests show generation to generation gains attributable to environment.[74] Second, I have found that the validity of IQ tests has not increased in thirty years and that they have changed very little in the last 50 years.[75] Third, I am not impressed by arguments of the high reliability and the considerably less higher correlations with academic and occupational success. Because the Stanford-Binet has a reliability of .95 does not mean it is measuring intelligence--it simply means that an IQ score obtained by an individual does not change significantly with age. That the IQ tests correlate closely with grades and other academic measures of performance can simply mean that the curricula and the tests are structured around the same thing.[76] That dominant and consistent ingredient is simply the white, middle class, European and North American psychological characteristics and values of the majority.

One of the most blatant inconsistencies of Jensen's use of IQ data is the difference in the way he interprets IQ scores for blacks and disadvantaged children and for others. Jensen assumes that the fifteen point IQ difference between black and white population IQ scores actually reflect differences in ability between the two groups. Yet when tests taken after special programs show a considerable reduction in the IQ differential, Jensen does not consider this as increases in ability of the black and disadvantaged; rather, he demands that these gains be shown to be persistent over an undefined period of time. He also contends that the gains are more likely to reflect a "more accurate testing situation."[77] Currently we do not know whether these gains in IQ are the result of actual IQ improvement or whether they are the result of previously inadequate schooling or training of blacks. It should be clear however, that current Stanford-Binet type IQ tests are not valid measures of innate capacity in even abstract reasoning abilities for blacks; first, because the measurement error is stronger, non random and is not able to be as adequately determined for blacks as is the case for whites; second, because these tests are clearly culture bound instruments that were not developed with black culture in mind.

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[74]Guilford, p. 355.

[75]Ibid., p. 471.

[76]See the letter by Daniel Robinson, The New York Times (September 21, 1969), Section VI, p. 14.

[77]See Jensen, pp. 97, 100 & 106.

When Jensen consistently uses the narrow operational definition of intelligence as abstract reasoning, it in fact implies that mental capacity is limited to abstract reasoning ability at a particular time of one's life. Obviously what is not included in the measure of abstract reasoning ability is not perceived, focused upon, measured, considered important or presumed to exist.

Even if we acknowledge the fact that there is a relatively high correlation between IQ tests and success in school (and in some cases success in jobs) we must remember that this does not mean that these tests are measuring innate mental capacity or current mental development in a cross-culturally valid and totally exhaustive way independent of socialization experience.

Numerous modern critics of American education have pointed out that a great deal of what goes on in American classrooms is not education but rather the inculcation of values.[78] This is especially the case in our black urban ghetto schools. What a child learns or does not learn in school is greatly affected by the way the child interacts in his environment both inside and outside of school. If a child has difficulty accepting or adapting to values stressed in American schools, then that child does not learn what other children, who do not have difficulty accepting those values, learn in school. It is also important to note that it is environmental factors such as peer group norms, emotional and physical deprivation due to poverty and neglect, and curriculum irrelevancy that can effect what children learn in school. The case of even greater environmental influence over what children learn outside of school is even more evident.

The above environmental externalities have important side effects in IQ test scores because IQ tests are basically tests of learned and achieved ability; not tests of mental capacity nor mental potential. Tests such as the Stanford-Binet are really tests of achieved ability because all tests

[78] I could cite a great number of sources. The best in my opinion are Jonathan Kozol, Death at an Early Age, Houghton-Mifflin Co., New York, 1967; James Herndon, The Way it Sposed To Be, Simon & Schuster, New York, 1965; Herbert Kohl, 36 Children, World Publishing, New York, 1967; Peter Schrag, Village School Downtown, Beacon Press, Boston, 1967.

which test ability at a given age always reflect the child's experiences as well as his innate ability.[79] This is not to deny of course, that heredity plays a significant if undetermined role in showing strength or weakness on the test.

Now it is time that I returned to a more basic question of what intelligence really is. First, it is clearly more than what intelligence tests measure and the capacity for conceptualization and abstract reasoning. I do not believe that test constructors have really been motivated to develop intelligence tests that might reinforce values that are not really highly regarded in the society even if those tests could measure intelligence defined as mental capacity.

The danger in not recognizing a broader range of mental abilities is to lose many talented individuals. Some of the most likely individuals to be missed by relying upon narrow abstract reasoning IQ tests are highly creative individuals or more specifically, individuals who score highly on tests of divergent-production abilities. Guilford and others have noted that the correlations between traditional intelligence test scores and assessments of creative potential and performance are really quite low.[80] He further pointed out that tests such as the Stanford-Binet include only about twenty-eight of the more than eighty known intellectual factors.[81] Getzels and Jackson noted that electing high school students in the highest fifth (of a high IQ group) in terms of IQ would miss about seventy per cent of the highest fifth on a divergent-production (creativity) test.[82]

I believe that all of the following kinds of test concerns should go into an evaluation of mental capacity. First, there should be credit given for being able to successfully adapt to rapidly changing circumstances, especially adverse circumstances. Second, I would give credit for having learned from experience. Although this may be difficult to test for it is an important dimension of mental capacity. Third, I would have a measure for creativity. This should be one of the most highly valued of all mental processes, but I did not find one reference to it in Jensen's

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[79]Bodmer & Cavalli-Sforza, p. 19.

[80]Guilford, pp. 166-170.

[81]Ibid., p. 37.

[82]Jacob Getzels and Philip Jackson, Creativity and Intelligence, Wiley: New York, 1962, pp. 20-29.

evaluation. Fourth, I would give credit for judgement. Many times in life the judgement of when to take the initiative, when to persevere, when to take no action, and when to draw back, are among the most crucial in the processes of mental growth. Cunning and resourcefulness are other considerations which definitely, under certain circumstances, reflect mental capacity.

Let's look a little closer at some of the test concerns that I have mentioned above. Actually, tests have been developed for concerns similar to those that I have mentioned above and these concerns have been isolated as intellectual factors. On the basis of research since 1954, evaluation has been defined as "a process of comparing a product of information with known information according to logical criteria, and making a decision concerning criterion satisfaction."[83] The research so far leaves no doubt that such a category of intellectual abilities exists. Some aspects of adapting successfully to negative circumstances, learning from experience, and judgement fall into this category. There are verbal and non verbal tests of evaluative abilities. However similar to IQ tests, the current tests reflect the cultural orientation of the test developer. In the future, black scholars may find that some of these tests are useful enough to be adapted to reflect the black experience.

A number of tests have been developed to find creativity or more precisely called divergent production abilities. The formal definition of divergent production abilities is "the generation of information from given information, where the emphasis is upon variety and quality of output from the same source; likely to involve transfer."[84] Guilford notes a number of tests that have been developed to test for divergent-production abilities. In my opinion, the test which black psychologists might find most useful in testing black children is the Brick Uses Test.

> The list of uses of common bricks that the subject gives in eight minutes is scored in two ways, for fluency by counting all relevant responses and for flexibility by counting the number of different categories of uses, or alternatively, the number of times that the subject shifts category of use. A subject who says bricks could be used in building a house, a barn, a silo, a school, a store, a bank,

[83] Guilford, p. 185.
[84] Ibid., p. 213.

> a walk, a wall, a floor, a barbecue, or a chimney would have a fairly good score for fluency but a zero score for flexibility. Another subject who says that bricks could be used to build a house, throw at a cat, drown a cat, make a doorstep, make bookends, make red powder, write a message, make a filter, make a baseball base, or make a tombstone for a bird would have equal length with the other subject, but he would have a large number of categories or shifts, hence a high score for flexibility.[85]

One adjustment black scholars should make would be to drop the necessity of requiring the student to have to answer in eight minutes. If other threatening elements of the testing situation were removed, this might be quite useful because it seems to provide less opportunity for the middle class bias that dominates most United States so-called intelligence tests. I recognize that having black scholars develop tests will not eliminate much of the cultural bias. One of the reasons for this is the fact that the socialization process of some blacks is more similar to the dominant white culture than to elements of the black sub-culture. However, the probability of the degree of cultural bias in test development being reduced (for black children at least) is greater if we black scholars develop the tests.

In addition to the above, I would also stress another approach to measuring mental growth. I do not see why the process of being able to understand and act above and beyond one's own immediate interests has not been considered in intelligence measures. Possibly the work of Lawrence Kohlberg could be considered a start in this direction.[86] If this approach was used, credit could be given in role playing situations that involve acts of charity, love, or possibly in some cases problem solving efforts toward a welfare, collective or tribal type sharing arrangement. This type of measure of mental growth or capacity seems a more meaningful index than the capacity for abstract or conceptual reasoning.

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[85] Ibid., p. 143.

[86] Lawrence Kohlberg, "Development of Moral Character and Moral Ideology," in Hoffman & Hoffman, Review of Child Development Research, Russel Sage Foundation, New York, 1964, pp. 383-431.

A final mental capacity measure that I would be concerned with is recognition for perception, moral appreciation and sensitivity to other people's cultures and ways of life. Just as I find that this quality is not measured in IQ tests, it is also ignored in most of American education.

Very little work in psychology has been done on testing for these concerns of social intelligence. The best work has centered around attempts to find the behavioral content factors. This is defined as "essentially nonverbal information involved in human interactions where awareness of attention, perceptions, thoughts, awareness, desires, feelings, moods, emotions, intentions, and actions of other persons and ourselves is important."[87]

This factor recognizes that most of the sensory cues from which behavioral information is generated are visual or auditory in character, and are instigated by the behavior of persons. It is the expressive aspects from which the cues arise: the postures, movements, vocalizations, and verbalizations that people show. The expression can involve the entire body, part of the body, or a combination of parts.[88] Because of the nature of this factor, most tests are visual and consist of pictures showing movements. Thus, tests for this factor are heavily influenced by the culture of the test developer. This is simply another area where black scholars should develop tests for black children. Black scholars might find interesting results because expression is a major part of "soul."

It is clear that so-called intelligence testing as we know it does not take into account or value many of the concerns that I have mentioned above. Jensen, no doubt, would say that they involve values rather than measures of mental capacity. I would respond that the above measures are no more value laden than his reasons for focusing upon the IQ measures he chose. Jensen justified his choice by writing that his choice of intelligence ability measures "has been singled out from the total galaxy of mental abilities as being especially important in our society mainly because of the nature of our traditional system of formal education and the occupational structure with which it is coordinated."[89] These culture bound, value laden,

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[87] Guilford, p. 77.

[88] Ibid., p. 78.

[89] Jensen, p. 19.

mental abilities certainly have no a priori justification as being selected as the educational or societal final goal. Furthermore, it is important to note that the choice of a unitary, "what intelligence test measures" definition of intelligence represents a value choice by Jensen. By accepting the validity of determining intelligence almost solely in this narrow manner, Jensen feels he must explain the different or worse (compared with whites) performance of black children on these limited instruments.

Once Jensen accepts black performance on IQ tests as defective, he then looked at two different explanations. The first stressed that negative black differences in performance was caused by cultural deprivation, inadequate sensory stimulation, weak family structure or one of many other environmental deprivation causes. The policy results of this type of analysis is usually a program that attempts to intervene in the black environment at an earlier and earlier age. An example of this type policy is the Head Start program.

Jensen correctly noted that interventionist programs such as Head Start did not eliminate the IQ test differences between black and white children. Since he truly believes that there is defective black test performance to be explained, he sees no alternative other than a model of genetic inferiority.

Note the steps in the process:

1. IQ tests of intelligence show significant black-white differences.
2. Environmental explanations of the difference or deficit lead to intervention programs such as Head Start in an attempt to eliminate the differences.
3. Since neither operation Head Start nor any other environmental deficit intervention program can eliminate the differences in black-white IQ scores, the answer must lie in a theory of black genetic inferiority.

To sum up the most important limitations of the above positions are:

First, the acceptance of black-white differences in IQ test scores as a legitimate case of intellectual inferiority or valid indications of limitations upon mental capacity or potential. By focusing upon the black difference, the more

important and significant limitations in the testing instruments or the societal value structures that these instruments serve are overlooked and not questioned.

Second, both the environmental deprivation and the genetic inferiority theses assume that the cause of many of the difficulties that black people in the United States face stem out of something that is wrong with blacks themselves (genes) or with their immediate environment. Conveniently this also has the status quo advantage of not raising questions or focusing attention upon the larger political, economic and social values and actions as explanatory causes of black differences or difficulties.

Third, both the environmental deprivation and the genetic inferiority theses are based upon the unfamiliarity of social scientists with the black cultural experience. More will be said of this later in the paper.

If Jensen accepted a broader definition of intelligence, he probably would have reached different conclusions about the significance of black-white mental differences. Jensen, and other social scientists who do not know or understand black culture should keep the following in mind when discussing intelligence testing:

> The evidence of four decades points overwhelmingly to the fact that when one compares Negroes and whites of comparable cultural and educational backgrounds, differences in intelligence test scores diminish remarkably; the more comparable the background, the less the difference. Social inequalities deprive large numbers of black people of social, educational and economic advantages available to the great majority of the white population and the existing social structures prevent black and white people of even the same social class from leading comparable lives. No scientific discussion of racial differences can exclude an examination of the political, historic, economic and psychological factors which are inextricably related to racial differences.[90]

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[90]Statement of the eighteen member Council for the Society for the Psychological Study of Social Issues, New York Times, May 11, 1969, p. 31.

POLITICAL AND SOCIAL USES AND MISUSES OF THE JENSEN HYPOTHESIS

Thus far this evaluation has discussed the academic merits of the Jensen article and has necessarily been somewhat theoretical. I would now like to turn to some of the real life political and social consequences of the Jensen article.

Deep down many scholars probably feel there may have been an academic overreaction against the Jensen hypothesis simply because he raised a topic that many feel is too sensitive to deal with at our current state of knowledge. Jensen feels that statements such as the above from the Council for the Society for the Psychological Study of Social Issues, reflect "the belief in the almost infinite plasticity of the intellect and an ostrich-like denial of biological factors in individual differences."[91] The image of Jensen as a crusader for academic freedom is further enhanced when members of the Students for a Democratic Society engaged in harassment demanding that he be fired and the time when his life was threatened.[92] Such activities draw attention away from the more basic question. That involves the responsibility of a scholar for the uses to which his research is put. This subject will be dealt with more specifically later in this paper. It is unfortunate, however, that Jensen may not realize that many of his critics attack his hypothesis because they realize now and probably realized before, the way such an unproven hypothesis could be used and abused.

Black scholars and black people in general are especially resentful by the wide spread publicity and generally favorable response in several quarters to the Jensen hypothesis.[93] I believe that much of this anxiety may be because many of our people may not know and understand how slippery, uncertain and in all probability wrong, most of his inferences about race-IQ-genetics are. The more basic reasons for anxiety among our black communities

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[91] Jensen, p. 29.

[92] New York Times (May 19, 1969), p. 33; see also "Jensen Defends his Views on Race, Class and Intelligence," Times Educational Supplement (London), 2879, July 24, 1970, p. 9.

[93] Carl T. Rowan, "How Racists Use Science to Degrade Black People," Ebony, XXV, no. 7 (May, 1970), p. 31. In all candor, I acknowledge that many whites were also resentful with the widespread publicity.

is, however, based upon a more realistic fear. That fear is the fear of political misuse of the Jensen data because of the extreme vulnerability of black people in the United States. By political vulnerability I refer to the fact that blacks are an underrepresented political minority on all scales of political power. By political abuse of Jensen, I am referring to political leaders attributing a higher degree of certainty to the Jensen findings than the data warrant.

Black people also realize that some non scholars will see that Jensen's hypothesis will reinforce some feelings that they already have about black inferiority. Glock, among others, has suggested that people's attitudes on a wide variety of public issues are influenced and may be determined by their conception of man's nature, especially the weight they give to the role of the social environment.[94] Thus for a noted educational psychologist to either raise doubts about black learning capacity, or to negate the burden of black environmental deprivation, can have major political and public policy consequences. The average lay voter will not read Jensen or his critics. He just has to hear that the idea that intellectual capability is independent or minimally influenced by environmental hardships is again legitimate or that there is great doubt among the "experts." This gives people the legitimized option to assume that since the "experts" are in doubt Jensen is as likely to be right as wrong.

The Jensen hypothesis reinforces the Horatio Alger, pull oneself up by one's boot strap myth. This myth and hypothesis justifies limited or no governmental or even private actions to aid the poor and the black. Thus, there are major private and public benefits for the non poor, non black majority for believing in and incorporating selective strains of the Jensen hypothesis into public policy decisions. Some of the "advantages" include: a justification for the much greater proportion of poor and black in dead end and marginal jobs (supposedly they are working to their maximum if limited capacity); justification for the overwhelming proportion of the poor and the black who are both poor and who live in very difficult environments (the problems of these people are not due to limited opportunity or difficult environmental constraints--rather they are due to their limited capacity, i.e., less intelligence which would permit them to do as well as whites regardless of

[94]Charles V. Glock, "Images of Man and Public Opinion," Public Opinion Quarterly, XXVII, no. 4 (Winter, 1964), pp. 539-547.

the opportunities); the reinforcement or creation of feelings of racial superiority of whites in relation to non whites (whites are really better off in this country than blacks because whites are more "intelligent and work harder," etc.); finally, the Jensen hypothesis serves to reduce any feelings of white responsibility or guilt for the plight of the poor and the black in the United States; thus for many whites the Jensen hypothesis may have the effect of a psychological catharsis.[95]

Further information regarding possible abuses of the data has already been documented. At a panel of the 1969 meeting of the American Anthropological Association meeting, Dr. Katherine J. Hardy, an Anthropologist at the University of Arkansas, told the delegates that Negro (and she did mean Negro) teachers in Little Rock had been discouraged by what they understood as Jensen's "proof" that Negroes were genetically less intelligent than whites.[96] A congressman has put all of the one hundred twenty three pages of Jensen's article into the Congressional Record.[97] I did not see that any articles critical to the Jensen analysis were put into the record. It is also interesting to note that the Jensen article was distributed as "must reading" by the notorious (as far as Black peop e are concerned) Daniel Patrick Moynihan to members of the Nixon cabinet.[98]

> The Jensen piece will strengthen the reasoning of conservatives within the Nixon Administration who are convinced that pouring monies into public schools produces negligible results. For the heredity thesis clearly implies there is little to be derived from tampering with schools or by improving the life styles of the poor. If the capacity to learn has already been settled, why should the government invest heavily either in schooling or in changing the conditions of poverty.[99]

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[95]United States Commission on Civil Rights, "Racism in America," Urban Series no. 1, Government Printing Office, (Jan., 1970), pp. 20-24.

[96]New York Times, (Nov. 23, 1969), p. 88.

[97]Lawrence Edson, "Jensenism, the Theory that IQ is Largely Determined by Genes," New York Times Magazine (Aug. 31, 1969), p. 11.

[98]Ibid.

[99]Maurice R. Berube, "Jensen's Complaint," Commonweal, XCI (Oct. 10, 1969), p. 42.

It is not surprising that Daniel Patrick was impressed with the Jensen article. This article reinforces the main premises of Harvard University's Glazer-Banfield-Moynihan school of thinkers. Basically put, it reinforces the thesis that it is not racism and discrimination but weaknesses and defects in blacks themselves that account for the present state of inequality between black and white in the United States.[100]

> Because many whites have difficulty understanding and evaluating their own responsibility for what often appears to be an inherited situation, they tend to condemn the reactions of victims to their plight. Rather than try to determine the causes of such chronic ghetto problems as drug addiction, high crime rates, unemployment and school dropouts, the white frequently falls back on racist interpretations of Negro inferiority or worthlessness . . . The emphasis is thus shifted away from the conditions which distort human growth and which disallow a child from becoming a healthy adult, and most significantly, away from the people and institutions which have the power to change those conditions. Hence the victim is conveniently identified as the cause of his victimization.[101]

The inadequacies of the Moynihan thesis have been adequately spelled out by William Ryan.[102] Banfield, the Henry Lee Shattuck Professor of Urban Government at Harvard, most likely would not agree that his views of the educational problems of black children are similar to

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[100] To point out all the examples of this basic premise in all the numerous writings of these very influencial authors would require another paper or maybe a book. Their most recent elaboration of this theme is found in the 1970 introduction to Beyond the Melting Pot, MIT Press (Moynihan and Glazer); see also Edward C. Banfield, The Unheavenly City, Little, Brown, Boston (1970)--especially chapter 4. For one of the numerous good critiques see William Ryan, "Savage Discovery: The Moynihan Report," in Barry N. Schwartz and Robert Disch (eds.) White Racism, Dell, New York, 1970, p. 443.

[101] Barry N. Schwartz and Robert Disch (eds.), White Racism: Its History, Pathology and Practice, Laurel-Dell, (1970), New York, Introduction pp. 64-65, hereinafter referred to as White Racism.

[102] William Ryan, Blaming the Victim, Pantheon: New York, 1971, especially chapter 4.

Jensen's. He would contend that he sees the problems of blacks in terms of class and cultural inadequacies, not genetically caused racial differences. Yet the basic similarity exists; Banfield and Jensen contend that blacks face major problems in the United States basically because of inadequacies of the blacks themselves; for Jensen the causal explanation lies in breeding patterns and genetics, while for Banfield the causal explanation lies in the culture. Banfield agrees with sociologist Urie Bronfenbrenner when he wrote: "Whatever their origin, the most immediate, overwhelming and stubborn obstacles to achieving quality and equality in American education lie as much in the character and way of life of the American Negro as with the indifference and hostility of the white community."[103]

Banfield is just as vicious in his own words:

> Like everyone else [a black] prefers to live among people whose class culture is not very different from his own. The main trouble with the ghetto (when it is without walls) is that so many of its residents are lower or lower working class. This is perhaps the principal reason why its alleys are strewn with garbage, why there are rats in the cellars, why the school is a blackboard jungle, why the streets are noisy and disorderly, why police protection is poor and all the rest.[104]

Ghetto stores do not carry low quality merchandise at high prices because poor people cannot get credit elsewhere or because poor people have less mobility and shopping information than the middle class; no, the answer rests in that lousy poor and black culture. Alleys are not strewn with garbage because of the overcrowded conditions, lack of maintenance, lack of garbage disposals or the lack of adequate garbage collection. Rather the problem lies with that lousy poor and black culture. Schools are not a blackboard jungle because anything is wrong with the basic structure and fabric of American urban education. No, the answer lies in that lousy poor and black culture. I can go on and on but I think I have made my point.

The final point of agreement between Banfield and Jensen is the way both rally to support the status quo.

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[103]Banfield, p. 85.

[104]Ibid., pp. 82-83.

Banfield, the current Vice President of the American Political Science Association, is quite specific when he writes: "Hard as it may be for a nation of inverterate problem-solvers to believe, social problems sometimes disappear in the normal course of events."[105] All I can say is at least Jensen was a little more subtle.

Let's examine more thoroughly the political policy ramifications of the Jensen article. Some may feel that Jensen was advocating major changes in public education because he attacked compensatory education. This is only partially true. In fact, much of the Jensen article is a reinforcement for past traditional ways of educating children. Jensen notes that "despite all the criticisms that can easily be leveled at the educational system, the traditional forms of instruction have actually worked quite well for the majority of children."[106] In his positive value laden view of the school system, Jensen is not concerned with the failure of the school system to achieve mass success in teaching even the basic scholastic skills to the majority of black children. In contrast to the views of the black community, Jensen's support of the school system is so strong that he refuses to attribute the failure in teaching these basic skills to the educational establishment.

> He [Jensen] fails to acknowledge the role of the school environment, the complexities of the educational system, and the interpersonal dysfunctioning that typically characterizes the relationship of the school administration to the teaching staff, the teaching staff to the children, and inversely of the children to their teachers. At an early age children often with great intuition and great intelligence learn not to cope with the school situation, not to attend, not to take it seriously. In other words, they find it intellectually non stimulating, non motivating, and in circumstances where children and teachers come from different social class and caste backgrounds, children are likely to find the interaction as well as the instruction threatening to their ego structures and to their personal identities. This is true for normative circumstances; it is most objective and descriptive of ghetto situations.[107]

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[105] Ibid., p. 257.

[106] Jensen, p. 7.

[107] Deutsch, p. 69.

More important than the Jensen support for the status quo (or worse) in American Education, are the policy conclusions for the education of black children that flow from the Jensen hypothesis. These education policies would have ramifications for the whole society. Jensen basically supports teaching white children in their strength (conceptual learning or level II) and black children in their strength (supposedly associative learning or level I). Since greater status and occupational rewards in a technical society comes from more conceptual work, what Jensen is basically proposing is to formalize an educational caste system.

> In the statement on page 114, Jensen assumes that there are different neural structures characterizing level I and II and that there are important genetic factors involved in determining these structures. This is a restatement of the old Galtonian eugenic point of view, which essentially hypothesizes high positive correlations among social class, intelligence, and neural factors. The social implications of this are enormous, obvious, and totally anti-democratic, and would tend to create a permanent caste society in which those of lower caste (mostly black) would be forever doomed by their hypothesized neural structures to remain in an inferior position, with all that it implies for future occupational attainment and the antecedent educational opportunities.[108]

The Jensen article has already been put to use by attorneys in some desegregation cases and by other legislators in respect to appropriation bills. The abuse of social science research on racial matters cannot help in bringing about further cooperation of the black community in social research;[109] less money for education cannot lead to better

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[108] Ibid., p. 81.

[109] On December 2, 1970, The Community Research Review Committee of the Boston Black United Front, advised the Roxbury Community not to continue participating in a university sponsored Infant Research Project. Part of the justification for this action was the following:

> In the past, studies such as this have been used to say that black people are physically and mentally inferior to white people, and these studies have been used to justify government policies and programs which have had a damaging effect on black people.

This statement is an item from a pamphlet distributed to the community. It currently appears that this project, headed by Prof. Jerome Kagan of Harvard, will be stopped.

education; the reservations and caveats of a scholar do not ameliorate the actions of non scholars who may not understand or care to understand the reservations; the casting aside of court decisions cannot bring about greater equality.[110] All in all, one has to conclude that the cause of better United States race relations has been set back.

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[110]Deutsch, p. 92.

THE JENSEN HYPOTHESIS: Was it the White Perspective or White Racism?

One of the major efforts in social research is the attempt to be as objective as possible. This search for the ideal always seems to be greatly weakened whenever a scholar writes about a topic that clearly involves, analyzes, questions, reinforces or threatens the scholar's own ego, security, values, race or other topic that the scholar feels very strongly about. Too often the strong feelings that are held are unconscious, but the result is a definite selectivity about what is selected, stressed, and more important, what is omitted. Now it is obvious that all scholarship like most other endeavors must involve selectivity and furthermore, one's framework is also influenced to varying degrees by one's values.

The purpose of this section is not to question anybody's values. Rather it is to point out a scholar's values as well as his own background may lead him to unconsciously be less objective than he thinks he is. This is especially the case for subjects dealing with race, heredity and environment.

In this section, I will cite evidence to show that the Jensen hypothesis possibly suffers from the unconscious selectivity that characterizes the "white perspective" used by some writers and scholars when considering race related concerns. If Jensen is not guilty of using the white perspective (at the cost of much objectivity) then I think the more serious case of racially biased viewpoint exists in the Jensen article.

It is important that I be quite clear in what I mean by perspective. I define a scholar's perspective as a blindness over certain unquestioned assumptions and inferences that support or reinforce a scholar's value preferences, clientele or sponsoring group, race, religion, creed, nation or dogma in which the scholar may feel threatened if it is attacked or questioned. Every social scientist who ignores, underestimates or depreciates the tragic effect upon black Americans of living in an environment where major adaptations were required to survive American racism is guilty of using the white perspective and abusing scholarly responsibility.

Black scholars, for a variety of reasons, have not articulated a black perspective with the attendant publicity that a white perspective piece like Jensen's can command.

If black scholars were as readily able to get their perspective across, the entire black community would feel less threatened by articles such as Jensen's. A true black perspective should not be threatened at all by articles such as Jensen's. A true black perspective could come to the same conclusion as Jensen; specifically that mental ability and other phenotypes are in all probability greatly more influenced by heredity than by environment in most cases. This same perspective could argue that generations of white inbreeding had left a large proportion of the white population (in contrast to the black population) incapable of feeling, expressing or understanding certain humanistic emotions, sensitivities and empathies. Black scholars could then define intelligence using the dimensions that I spelled out above. They may even start to develop tests for these qualities. If black scholars had in fact been pursuing intelligence testing from this perspective then Jensen would not have appeared nearly so threatening.

It is obvious that we could develop black IQ tests that are as culturally biased as white IQ tests. For example, suppose white adolescents or adults had reading comprehension tests based on paragraphs such as the following:

> Last week I decided to "make it" to the "City." We headed straight Uptown and "Fell" by" this "blind pig." This place was really "together." The hostess was a "stone fox" who made sure everything was "everything." The owner was a really "down" dude who kept the "jive" elements out and didn't let any "block-boys" "gorilla" their way past him. The food was laid from "wrinkled steak" and "greens" right down to "Georgia Hams" and the "Ripple" flowed "for days." As for "sounds" - "Hot Buttered Soul" and "Movement" hung in. I knew there wouldn't be any "busts," so I just laid in and "grooved."[111]

In addition to asking questions about what one comprehended from the above paragraph one could develop a series of objective analogies. Once such analogy could be the following:

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[111] I'd like to thank Mr. Elmer Kountze for bringing this example to my attention. This example is to simply show that what is defined as legitimate to constitute intelligence is greatly influenced by one's values.

"Wrinkled steak" is to
a) fillet mignon
b) barbecued spare ribs
c) chitterlings
d) fried chicken

as "Ripple" is to
a) C.C.
b) Thunderbird
c) J & B
d) Beer [112]

The point to be made from the above is that to test the IQs of whites by instruments heavily weighed in the black subculture is as equally invalid as testing the IQs of blacks with testing instruments heavily weighed in the dominant white culture.

Much of what is wrong in the evaluation of black people by social scientists happened because many social scientists viewed the black cultural experience through the white perspective. Often at the root of the problem has been an ignorance of black culture and the result has been a distortion in the interpretation of the black experience.

> The total denial of Negro culture is consonant with the melting pot mythology and it stems from a very narrow conceptionization of culture by non-anthropologists. Social science has refused to look beyond the surface similarities between Negro and white behavior and, therefore, has dismissed the idea of subtle yet enduring differences. In the absence of an ethno-historical perspective, when differences appear in behavior, intelligence or cognition, they are explained as evidence of genetic defects or as evidence of the negative effects of slavery, discrimination and poverty. Thus the social scientist interprets differences in behavior as genetic pathology or the alleged pathology of the environment; he therefore fails to understand the distortion of the Negro culture that his ethnocentric assumptions and measuring devices have created. The picture that emerges from such an interpretive schema may be seen as culturally biased and as a distortion of the Negro experience.[113]

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[112] The correct answer for the less bright is "wrinkled steak" is to chitterlings, as "ripple" is to Thunderbird (wine).

[113] Baratz and Baratz, p. 32.

The major problem with approaches from perspectives, be they white or black, is that they dilute a truly scientific effort because of the unconscious areas of intellectual blindness that are an inherent "feature" in any perspective oriented point of view.

It is sometimes lost in the emotionalism that revolves around the Jensen article, that the major criticisms against it do not arise because he raised the issue of genetically invluenced racial differences in mental abilities. Black people do not have to fear the following statement which should have been Jensen's major contribution:

> Any groups which have been geographically and socially isolated from one another for many generations are practically certain to differ in their gene pools, and consequently to show differences in any phenotypic traits involving high heritability . . . Races are said to be "breeding populations" which is to say that matings within the group have a much higher probability than matings outside the group. Races are more technically viewed by geneticists as populations having different distributions of gene frequencies. These genetic differences are manifested in virtually every anatomical, physiological, and biological comparison one can make between representative samples of identifiable racial groups. There is no reason to assume that the brain should be exempt from this generalization . . .
>
> There seems to be little question that racial differences in genetically conditioned behavioral characteristics, such as mental abilities should exist just as physical differences. The real questions are not whether there are or are not genetic racial differences that affect behavior because there undoubtably are. The proper questions to ask from a scientific standpoint, are: What is the direction of the difference? And what is the significance of the difference--medically, socially or economically.[114]

Other scholars than Jensen have documented ethnic and probable race related differences in patterns of learning.

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[114]Jensen, p. 80.

They, unlike Jensen, did not engage in provocative extrapolations beyond their data. If the problem with the Jensen article was simply because he raised the question of genetically based differences in mental ability among different racial populations; the same amount of controversy that accompanied his article should have also happened to the Stodolsky and Lesser article which preceded his in the same journal by over a year. Similar to Jensen, this article noted racial differences in tests of mental abilities. Note their conclusions:

> Our main point is that the study of mental abilities suggests that there may be patterns of attributes (cognitive, personality, motivational, and so forth) which are related in some way to ethnic group membership . . . We know ethnic groups differ in patterns of ability no matter what the social class level within the ethnic group, and our educational problem now becomes that of providing equal educational opportunity to all ethnic groups to maximize their development, even at the expense of magnifying differences among the groups.[115]

The fact that the kinds of criticisms and inferences that accompanied the Jensen article did not accompany the Stodolski and Lesser suggests two things. First, it suggests that the latter article did not make the unsupported inferences of the former. Second, it suggests that the question of genetic or racially related differences in mental abilities is not too sensitive to be scientifically debated if the debate is truly scientific and fair.

I will document from the Jensen article and from his interview in the New York Times magazine, statements which show that Jensen was neither scientific nor fair in the inferences and conclusions he drew from his data. In many cases these inferences were value laden and they consistently reflected a bias toward a racist hypothesis. It is because of such non scientific comparisons, inferences and omissions which follow that caused Jensen and the article to come under such attack.

One of the most unscientific aspects about the Jensen article was to imply that his was a deterministic model instead of one that is really quite stochastic. There are high

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115 Susan S. Stodolsky and Gerald Lesser, "Learning Patterns of the Disadvantaged," Harvard Educational Review, XXXVII, no. 4 (Fall, 1967), pp. 587 & 588.

degrees of uncertainty about Jensen's parameters; the limits of inferences from a less than ideal experimental situation, and finally a number of highly stochastic inferences about the nature of the environmental variable. I have spelled out in section two of this paper the numerous uncertainties and stochastic inferences in greater detail. The point I want to make here is that Jensen either did not realize or did not care that by not making it clear that he was writing about a stochastic model, many readers, especially non professional readers, would get the clear impression that he was writing about a deterministic model. If he did not realize this, then he was simply greatly influenced by the "white perspective." If he did realize it, then it is a matter of either gross insensitivity or racism.

> When the advancement of a hypothesis by a scholar with standing is bound to have a great impact on the resolution of current social and political issues of enormous magnitude, I am suggesting that scholarly responsibility dictates care in advancing those which are highly speculative. The bare fact that they might be true does not justify advancing them with the full panoply of scientific validation when they do not in fact have a sufficient degree of firmness.[116]

Another example of less than optimal scientific candor was Jensen's focusing upon the concept of "g" as if it were the only or the universally accepted theory of intelligence. Actually, it represents only one of a number of theories, several of which are based upon more recent data and are more widely accepted than "g."[117] It is important to note that the g theory is probably the most culture bound and the one which magnifies black-white differences. Modern approaches to the nature of intelligence, which by the way, also use factor analysis in many cases, do not agree with Jensen on the importance of g. The work of Guilford, for example, paints a multi-factorial, multi-faceted, picture of intelligence which he believes is more reflective of the actual complexity of human beings.[118] The point I am stressing is that by neither acknowledging these other theories nor addressing them, Jensen reinforced a certainty that was not warranted from the data.

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[116] J. D. Hyman, letter to the New Republic, CLXI (Oct. 25, 1969).

[117] Deutsch, p. 82.

[118] Ibid., p. 83. See also, J. P. Guilford, The Nature of Human Intelligence, New York: McGraw-Hill, 1967.

> None of these theories of intelligence has been "proven"; incontrovertable data have not been gathered to confirm any of them. However each [a number] of theories mentioned is as valid and prominent as g. Jensen's entire argument appears to be inextricably linked with the concept of g. Questioning g throws Jensen's whole line of reasoning into doubt.[119]

Jensen's academic non objectivity is probably most apparent when he is interpreting data he presents in his article. A number of times he does not relate how the data he presents can support an environmental emphasis hypothesis. For example, in discussing the effect of birth weight differences on intelligence he writes:

> Prematurity and low birth-weight have markedly higher incidence among Negroes than among whites. That birth weight differences per se are not a predominant factor in Negro-white IQ differences is suggested by the findings of a study which compared Negro and white children matched for birth weight. The Negro children in all weight groups performed significantly less well on mental tests at three and five years of age than the white children of comparable birth weight.[120]

Jensen's main conclusion from this data by Hardy is that birth weight is not the predominant factor in the black-white difference. Jensen ignores the obvious fact (to me at least) that the environments of representative samples of black babies differ considerably from the environments of a representative sample of white babies between birth and ages three through five. To ignore environmental differences or to assume black-white environmental comparability in the United States is deeply resented by blacks and it is considered the height of scholarly irresponsibility.

The most blatant example of scholarly blindness is the fact that Jensen does not see how persuasive a case he has made for an environmental emphasis explanation for a great deal, if not all of the black-white IQ differential. Jensen first notes that the black-white IQ difference is approximately fifteen points or one standard deviation

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[119]Deutsch, p. 83.

[120]Jensen, p. 71.

(p. 81). He then notes (p. 100) that Stanford-Binet gains of approximately eight to ten points could be attributed to the dynamics of the testing situation for "disadvantaged" children. He then notes on page ninety seven that gains in IQ from five to ten points (of course the gain can be from twenty to thirty points or more in some cases) could be attributed to compensatory and nursery school training in some cases. Jensen is finally willing to concede that different environments can account for approximately five points of the difference (pages sixty and ninety one). When added together (although it does not mean that all environmental variables are additive in every case) these IQ points which Jensen concedes are greatly environmentally influenced or controlled, could more than account for the black-white difference in IQ scores.

Jensen's personal biases were quite apparent in the way he discussed the reliability and validity of the methodology of various studies that he referred to in his article. Jensen vigorously attacked the methodology of the Rosenthal and Jacobson study.[121] The conclusion of this study, namely that children's IQ scores may be greatly influenced by teacher expectations, does not fit too well with the Jensen hypothesis. In contrast to the way he analyzed the Rosenthal and Jacobsen book, he was impressed with the Coleman Study. In fact, he considered the Coleman Report as one of the few studies that was "methodologically adequate" in collecting data.[122] Jensen exclusively relied upon the Coleman Report for his data in comparing black-Indian IQ scores and environments.

I have pointed out above in section two the numerous methodological difficulties with the Coleman Report.[123] It seems inconceivable to me that Jensen could have been as thoroughly aware of the methodological strengths and weaknesses of all the studies that he mentioned in his article except for the Coleman Report and not be aware of the weaknesses of that report. I can only conclude that there is either an academic or personal bias in the data analysis. This bias worked against any interpretation of

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[121] Robert Rosenthal and Lenore Jacobsen, Pygmalion in the Classroom: Teacher Expectation and Pupils' Intellectual Development, (Holt, Rinehart and Winston, Inc.), New York, 1968.

[122] Jensen, p. 84.

[123] See Section Two and footnote 46.

the data which placed the burden of the differences in the IQ scores on other than the black children themselves.

Jensen's non objectivity toward black America came to the forefront in numerous ways. It is possible that his viewpoints on black America are so deeply woven into his belief system that he can make invidious comparisons without actually realizing it. In the following passage, Jensen is paraphrasing the geneticist Theodosius Dobzhansky:

> . . . Some minimum level of ability is required for learning most skills. But while you can teach almost anyone to play chess or the piano, or to conduct an orchestra, or to write prose, you cannot teach everyone to be a Capablanca, a Paderewski, a Toscanini, or a Bernard Shaw.[124]

The verbatum quotation reads as follows:

> . . . Almost everybody could of become, if properly brought up and properly trained, a fairly competent farmer, or a craftsman of some sort, or a soldier, a sailor, tradesman, teacher or priest, certain ones would be more easily trainable to be soldiers and others to be teachers. It is even more probable that only a relatively few individuals would have the genetic wherewithal for certain highly specialized professions, such as musician, or singer, or poet, or high achievement in sports or wisdom or leadership.[125]

I find the emphasis and, more importantly, the basic meaning of Dobzhansky's quote changed significantly by Jensen's paraphrase. I particularly resent the racial implications of Jensen's selectivity and omissions. Black Americans have made significant contributions in all areas mentioned by Dobzhansky. Jensen's paraphrase represents a very subtle personal bias. First, all of the specific men mentioned by Jensen represent a particular middle class

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[124]Jensen, p. 76

[125]Theodosius Dobzhansky, "On Genetics, Sociology, and Politics," Perspectives in Biology and Medicine, XI (1968), p. 554, cited in J. Mc V. Hunt, "Has Compensatory Education Failed? Has it Been Attempted?," Harvard Educational Review, XXXIX, no. 2 (Spring, 1969), reprinted in Environment, Heredity, and Intelligence, p. 144.

preference. Music encompasses much more than the style of a Capablanca or a Toscanini. Bernard Shaw represents one style of prose. Dobzhansky's statement would include a Duke Elington, Nina Simone, LeRoi Jones (Imamu Ameer Baraka), Martin Luther King, Jr., Willie Mays and Malcolm X. Jensen's paraphrase would not. Now I ask the reader to judge: is this objective, unbiased Scholarship? Is it correct Scholarship? Is it fair and accurate Scholarship?

Jensen's culture bound white racism is nowhere more apparent than in his August 31, 1969 interview in the New York Times Magazine. In a letter to the Times later he referred to this interview as one of the most accurate reflections of his views.

On page forty three, he contends that the number of intelligence genes seems to be lower, over all in the black population, than in the white. If one believes this, he is left with a problem in the United States since there are few if any true blacks in the United States. Jensen has a "scientific" answer for this problem: "As to the effect of racial mixing, nobody has yet performed experiments that reveal its relative effect on IQ. If the racial mixture were not there, it is possible that the IQ differences between whites and blacks would be even greater." [126]

Jensen followed these inferences with a third knock-out punch. Jensen guessed that a possible explanation of the black-white IQ differences could be because the Negroes brought to the United States as slaves "were selected for their strength and docility rather than for mental ability." [127]

Jensen cannot prove any of the above. Matter of fact, it is not clear that he has any data that would lead one to believe that there is a higher probability that the above inferences are more likely true than false. I notice that all three inferences assume the worst as far as black America is concerned. There are no inferences here about the effect upon white IQs of the selection processes that led to different white migrations. The white Europeans who migrated were less successful than those who did not leave. Where is the inference that they were less intelligent? Where are the inferences about the many whites who came as indentured servants? Jensen infers that without

[126] Edson, p. 43.
[127] Ibid.

racial mixing the IQ gap could be greater. What scientific data leads him to this inference: What keeps him from seeing the possibility of a reduction in the IQ gap or even blacks ahead of whites if there were no interracial mixing?

Jensen displays his ignorance of contemporary research on slavery (by both United States and African scholars) by not realizing that black slaves were not chosen for their strength but rather because he or she was less desirable to the chief; because the slave possessed a rebellious nature, because the person was already a slave, because the person had committed criminal acts or finally, because the person had fallen into disfavor.

All of the above should make Jensen's basic biases clear. It is one thing to say that there are facial differences from the genetic interaction of different breeding populations. It is quite another thing, however, to make relative IQ comparisons which, among other things, make assumptions that stress relative comparable environments between blacks and whites and which ignore the cumulative effects of past environmental difficulties including those difficulties that could result in disadvantageous reproductive factors. It is racism at its worst to attribute a perjorative difference in black-white IQ scores to genetic differences when environmental influences upon blacks and whites in the United States are so far from being comparable.

Jensen may feel that this analysis is unfair. Yet, one must ask that since he is convinced of the high probability of genetically determined IQ differences, why did he devote almost one hundred pages to the black-white difference (where, of course, the blacks come out the worst) but about one paragraph to the IQ effects of differences in genetic endowments among the whites? He did not spend one hundred pages noting that the children of most white Americans score below children of Jewish descent on IQ tests. What policy recommendations do we conclude from that fact? An experienced scholar such as Jensen should know that he has a special responsibility when writing on race related issues. This special responsibility will be addressed more fully in the next section.

RESEARCH ON RACE RELATED ISSUES AND THE RESPONSIBILITIES OF A SOCIAL SCIENTIST

Throughout this article I have not directly addressed the question of the responsibility of a scholar for the use or abuse of his research findings. First I believe that there are limits of responsibility to which a scholar should be held. I feel that nobody should be bound to mold their behavior or scholarship around the expectation of irrational or stupid action by others. Although there are limits, there nevertheless are certain responsibilities of scholarship, especially for studies involving race. Research, especially research in psychology should keep in mind the advice below:

> When a psychologist reports to his colleagues, he usually indicates the limitations, and bespeaks caution in the limitation of his findings. The non-psychologist often takes the reports of psychologists, which today are widely publicized as scientific findings and therefore valid. As a consequence psychological studies are often translated into practice by those lacking professional training. Accordingly, in describing the social consequences of psychological studies, we should realize the frequent diversity between a particular research result and its attempted application by others.[128]

With this caution in mind, I believe that the following should be either goals, objectives, guidelines or standards for social science research on racial matters.

First it is clear that the scientist should either make his work as value free as possible or spell out the scientist's own values so that observer bias may be more apparent. Probably the best work is done when a scientist spells out his own values and tries to be objective at the same time. I believe a social scientist must recognize his own biases before he can control them. As I stated in the previous section, I had a major problem with the Jensen article because I felt he did neither of these things.

A second responsibility of social science research is to carefully spell out any limitations in the data and the danger of unwarranted extrapolation and interpolation. This

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[128] Lawrence K. Frank, "Psychology and Social Order," in Daniel Lerner (ed.) The Human Meaning of the Social Sciences, (World: New York), 1969, p. 217.

is especially the case for research involving race. Although this should be standard operating procedure, it was not the case in the Jensen article. Jensen did not make it clear that he was working with a stochastic, not deterministic model; he did not note or even estimate the degrees of uncertainty in the basic parameters, and probably most important, he did not clearly spell out his assumptions. I also noted above that all of Jensen's assumptions concluded in favor of the worst possible interpretation about the intelligence of black people. I have shown earlier in this paper that crucial Jensen assumptions are tenuous or doubtful at best and in my opinion are much more likely to be wrong than right. Thus because a phenotype such as intelligence is greatly influenced by genetic factors does not mean that IQ test measured differences between two populations must be due to genetically determined factors. The assumption that conclusions about mental capacity can be determined from current IQ tests especially mental abilities independent of environmental influences is simply wrong. Finally, the assumption that we know enough about environmental differentials to measure, or analyze these differentials with any meaningful degree of certainty for blacks, is simply incorrect at this day and time.

In the previous section, I mentioned that a researcher who writes on black-white relations has a special responsibility. This special responsibility arises because of the tendency of data to be abused by people with special axes to grind and because of the possibility of the data being misunderstood.

White social scientists should especially be careful of making assumptions about the environments in which black Americans live.

> Many researchers have difficulty making qualifications and interpreting findings because they don't know or don't acknowledge that blacks were forced to make adaptations and defensive adjustments different from those of whites--different in degree if not in substance. Thus, it has come as a surprise to some to find that groups of black children from the same income, job, and family structure as whites are very different from those whites in life style. The answer lies in the different adaptive mechanisms of several generations of families which still await description and classification. In the meantime many researchers continue to compare blacks

> and whites on variables--job, income, occupation--which are not very useful because of the difference in black and white experience.[129]

The tragedy of the Jensen article is that he reached conclusions based on tenuous assumptions at best and without raising certain fundamental questions. Such basic questions as the following should have been raised. To what degree were IQ scores effected by child rearing practices of black parents who were powerless to protect and defend their children? How were the development tasks of children born into slavery, or even after slavery into an oppressive and repressive society, different from those of children not faced with such problems? What is the impact upon IQ scores of both presently and in the past of spending much more money to educate white children over the amount spent to educate blacks? What has been the longitudinal effects of differences in black-white nursery school attendance?

If this article gets no other point across it should convince everybody that any scholar who makes a study of black and white differences and assumes that the environment for each race is similar or comparable, is definitely guilty of second class scholarship and it is highly probable that the findings of such scholarship should be rejected. Before he writes another article on the subject, Jensen would do well to heed the words of John Stuart Mill below:

> Of all vulgar modes of escaping from the consideration of the effect of social and moral influences on the human mind, the most vulgar is that of attributing the diversities of conduct and character to inherent natural differences.[130]

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[129] James P. Comer, "Research and the Black Backlash," American Journal of Orthopsychiatry, XL., no. 1, January 1970, pp. 8 & 9.

[130] John Stuart Mill cited in Stanley Krippner, "Race, Intelligence, and Segregation: The Misuse of Scientific Data," in Schwartz and Disch (eds.), White Racism, p. 452.

BIBLIOGRAPHY

Anastasiow, N. J., "Educational Relevance and Jensen's Conclusions," Phi Delta Kappan, XLI (September, 1969), pp. 32-35.

Banfield, Edward C., The Unheavenly City. Boston: Little, Brown, 1968.

Baratz, Stephen and Baratz, Joan S., "Early Childhood Intervention: The Social Science Base of Institutional Racism," Harvard Educational Review, XL, no. 1 (February 1970), pp. 29-50.

Bereiter, Carl., "The Future of Individual Differences," Harvard Educational Review, XXXXIX, no. 2 (Spring 1969), reprinted in Environment, Heredity, and Intelligence, pp. 162-170.

Berube, Maurice R., "Jensen's Complaining," Commonweal, IXC (October 10, 1969), pp. 42-44.

Bodmer, Walter and Cavalli-Sforza, Luigi, "Intelligence and Race," Scientific American, CCXXIII, no. 4 (October 1970), p. 27.

"Born Dumb?," Newsweek, LXXXIV (March 31, 1969), p. 84.

Brazziel, William F., "A Letter from the South," Harvard Educational Review, XXXIX, no. 2 (Spring 1969), reprinted in Environment, Heredity and Intelligence, pp. 200-208.

Campbell, Donald T., and Stanley, Julian C., Experimental and Quasi-Experimental Designs for Research. Chicago, Ill.: Rand McNally, 1966.

"Can Negroes Learn the Way Whites Can?," U.S. News and World Report, LXVI (March 10, 1969), pp. 48-61.

Comer, John P., "Research and the Black Backlash," American Journal of Orthopsychiatry, XL (January 1970), pp. 8-11.

Cronbach, Lee J., "Heredity, Environment and Educational Policy," Harvard Educational Review, XXXIX, no. 2 (Spring 1969), reprinted in Environment, Heredity and Intelligence, pp. 190-199.

Crow, James F., "Genetic Theories and Influences: Comments on the Values of Diversity," Harvard Educational Review, XXXIX, no. 2 (Spring 1969), reprinted in Environment, Heredity and Intelligence, pp. 153-161.

Deutsch, Martin., "Happenings on the Way Back to the Forum: Social Science and Race Differences Revisited," XXXIX, no. 3 (Summer 1969), pp. 523-557, reprinted in Science, Heritability, and IQ, pp. 63-97.

_____, The Disadvantaged Child. New York: Basic Books, 1967.

Edson, L., "Jensenism, the Theory that IQ is Largely Determined by Genes," New York Times Magazine (August 31, 1969), p. 10.

Elkind, David., "Piagetian and Psychometric Conceptions of Intelligence," Harvard Educational Review, XXXIX, no. 2, (Spring 1969), reprinted in Environment, Heredity and Intelligence, pp. 171-190.

Environment, Heredity and Intelligence. Cambridge, Mass.: Harvard Educational Review Reprint Series no. 2, 1969.

Fehr, F. S., "Critique of Hereditarian Accounts of Intelligence and Contrary Findings: A Reply to Jensen," Harvard Educational Review, XXXIX, no. 3 (Summer 1969), pp. 571-580, reprinted in Science, Heritability, and IQ, pp. 40-49.

Frank, Lawrence K., "Psychology and Social Order," in Daniel Lerner (ed.), The Human Meaning of the Social Sciences. New York: Meridian, 1969.

"Furor Over Race," U.S. News and World Report, LXVI (June 2, 1969), pp. 54-56.

Getzels, Jacob W., and Jackson, Philip W., Creativity and Intelligence. New York: John Wiley & Sons, Inc., 1962.

Glock, Charles V., "Images of Man and Public Opinion," Public Opinion Quarterly, XXVIII, no. 4 (Winter 1964), pp. 539-547.

Guilford, J. P., The Nature of Human Intelligence. New York: McGraw-Hill Book Co., Inc., 1967.

Heyman, J. D., (Letter), New Republic, CLXI (October 25, 1969), pp. 30-31.

Hudson, L., "Nature-Nurture Racialist Comeback?," Times Education Supplement, MMDCCXXIV (July 4, 1969, p. 33.

Humphreys, L. G. and Dachler, H. P., "Jensen's Theory of Intelligence," Journal of Educational Psychology, LX (December 1969), pp. 427-431.

Jencks, Christopher, "What Color is IQ?," New Republic, CLXI (September 6, 1969), pp. 25-29.

Jensen, Arthur R., "How Much Can We Boost IQ and Scholastic Achievement?," Harvard Educational Review, XXXIX, no. 1 (Winter 1969), reprinted in Environment, Heredity and Intelligence, pp. 1-123.

_____, "Reducing the Environment Heredity Uncertainty," Environment, Heredity and Intelligence, pp. 209-246.

_____, "Race and the Genetics of Intelligence: A Reply to Lewontin," Science and Public Affairs, XXXVI, no. 5 (May 1970), pp. 21 + .

Kagan, Jerome S., "Inadequate Evidence and Illogical Conclusions," Harvard Educational Review, XXXIX, no. 2 (Spring 1969), reprinted in Environment, Heredity and Intelligence, pp. 126-129.

Kohlberg, Lawrence, "Development of Moral Character and Moral Ideology," in Hoffman and Hoffman, Review of Child Development Research. New York: Russel Sage Foundation, 1964, pp. 383-431.

Lewontin, Richard C., "Race and Intelligence," Science and Public Affairs, XXVI, no. 3 (March 1970), pp. 2-8.

Light, Richard J. and Smith, Paul V., "Social Allocation Models of Intelligence: A Methodological Inquiry," Harvard Educational Review, XXXIX, no 3 (Summer 1969), pp. 484-510, reprinted in Science, Heritability and IQ, 1969, pp. 1-27.

McV. Hunt, J., "Has Compensatory Education Failed? Has It Been Attempted?," Harvard Educational Review, XXXIX, no. 2 (Spring 1969, reprinted in Environment, Heredity and Intelligence, pp. 130-151.

Mendenhall, William, Introduction to Linear Models and the Design and Analysis of Experiments. California: Wadsworth, 1968.

Moynihan, Daniel P. and Glazer, Nathan, Beyond the Melting Pot. Cambridge, Mass.: The MIT Press, 1970.

"New Rage at Berkeley," Newsweek, LXXIII (June 2, 1969) p. 69.

Rosenthal, Robert and Jacobsen, Lenore, Pygmalion in the Classroom: Teacher Expectation and Pupils Intellectual Development. New York: Holt, Rinehart and Winston, Inc., 1968.

Rowan, Carl T., "How Racists Use Science to Degrade Black People," Ebony, XXV, no. 7 (May 1970), pp. 31 + .

Ryan, William, Blaming the Victim. New York: Pantheon, 1971.

_____, Science, Heritability and IQ, Harvard Educational Review reprint series no. 4, Cambridge, Mass., 1969.

Shubik, Martin, Game Theory and Related Approaches to Social Behavior. New York: John Wiley & Sons, Inc., 1964.

Stinchcombe, Arthur L., "Environment: The Cumulation of Effects is Yet to be Understood," Harvard Educational Review, XXXIX (Summer 1969), no. 3, pp. 511-522.

Stodolsky, Susan and Lesser, Gerald, "Learning Patterns in the Disadvantaged," Harvard Educational Review, XXXVII, no. 4 (Fall 1967), pp. 546-593.

Schwartz, Barry and Disch, Robert (eds.), White Racism: Its History, Pathology and Practice. New York: Laurel-Dell, 1970.

United States Commission on Civil Rights, "Racism in America," Urban Series no. 1, Government Printing Office, January, 1970, pp. 20-24.

Voyat, Gilbert, "IQ God-Given or Man Made?," Saturday Review, LII (May 17, 1969), p. 734.

New York Times
(1969)
March 30
April 1
April 6
April 11
April 13
May 2
May 19
May 20
June 6
August 31
September 21
September 28
November 16
November 23
(1970)
May 3
August 20